

# Glyco-Enzyme mRNA Expression in Gliomas

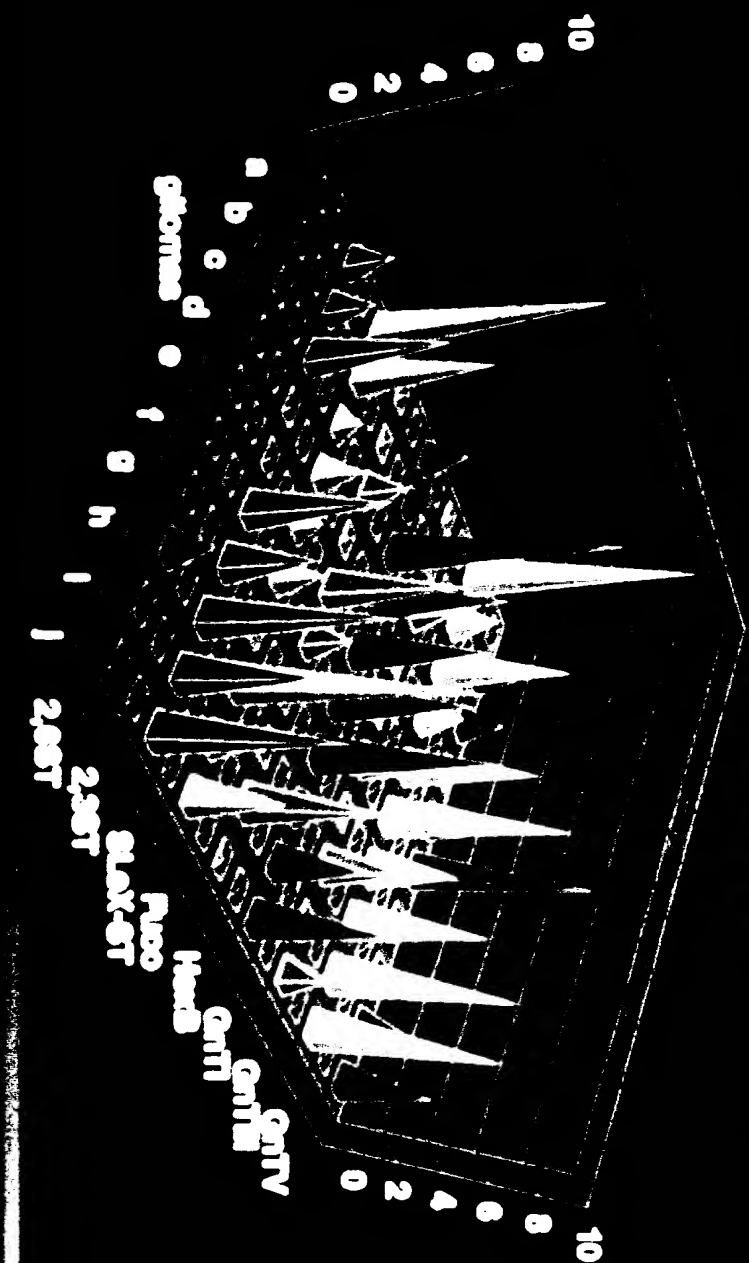


FIGURE 1

# Glyco-Enzyme mRNA Expression in Meningiomas

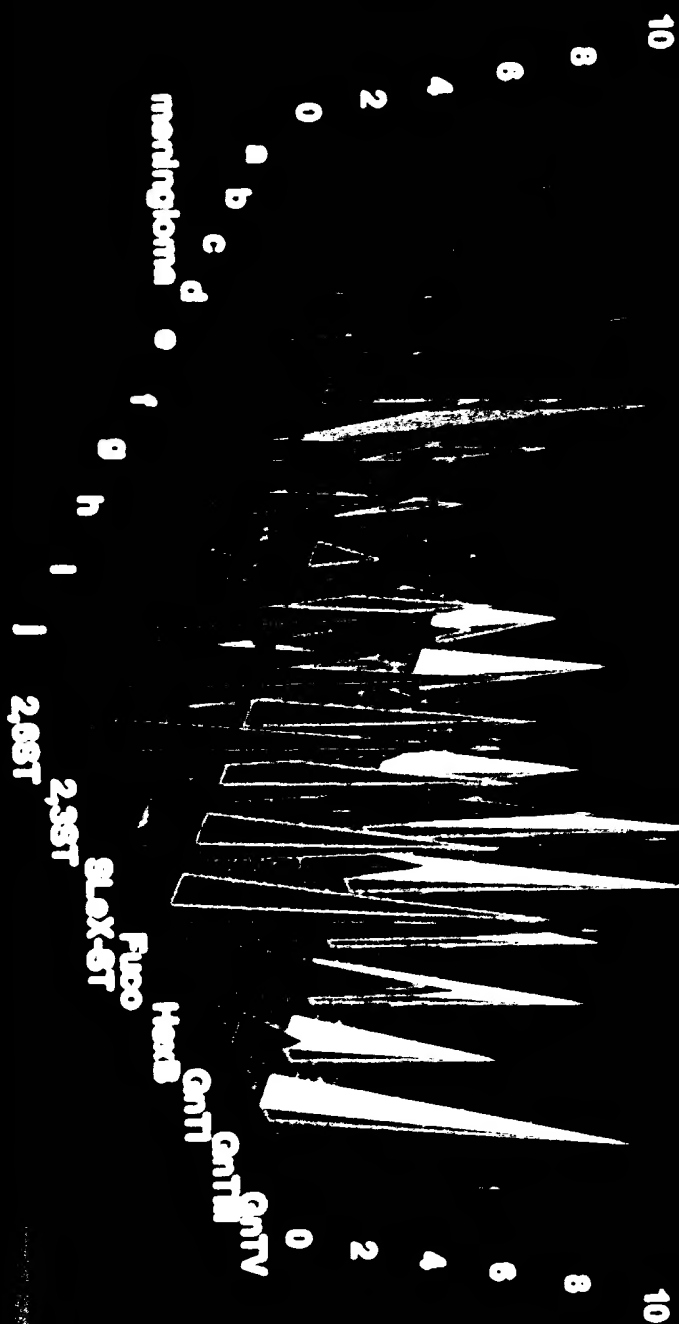


FIGURE 2

**FIGURE 3**

Transcriptional Regulatory Region		Nucleic Acid Encoding Glycosyltransferase	
<b>Examples of Transcriptional Regulatory Regions</b>		<b>Nucleic Acid Encoding Glycosyltransferase</b>	
CMV immediate-early enhancer/promoter		$\alpha$ 2,6-ST	
SV40 early enhancer/promoter		$\alpha$ 2,3-ST	
JC polyomavirus promoter		SLex-ST	
Chicken $\beta$ -actin promoter coupled to the CMV enhancer		Fuco	
		HexB	
		GnTI	
		GnTIII	
		GnTV	

FIGURE 4

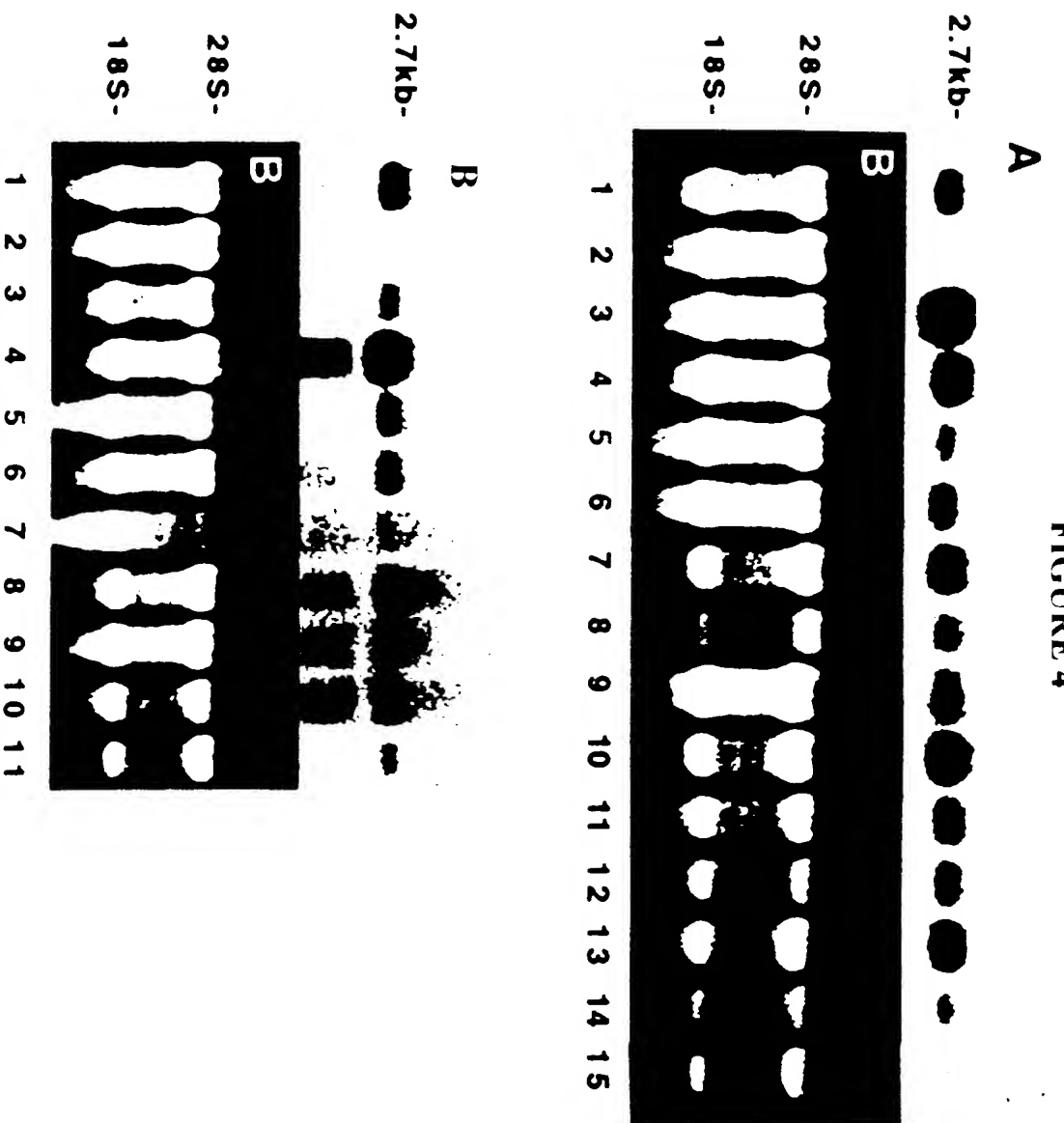


FIGURE 5

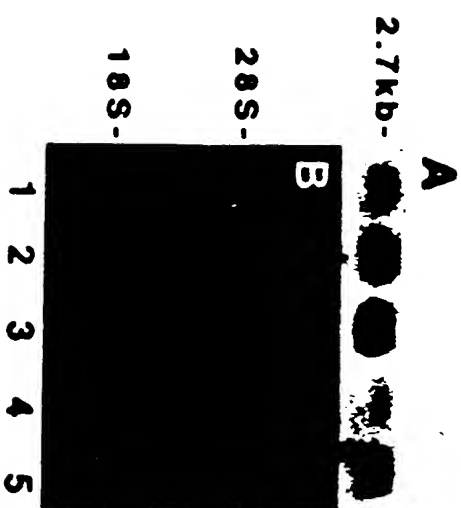
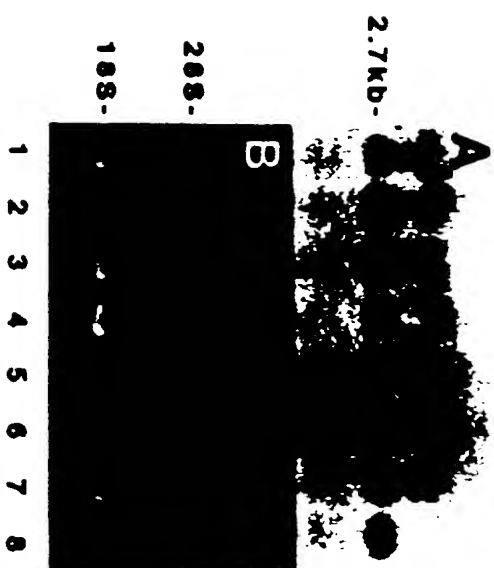


FIGURE 6

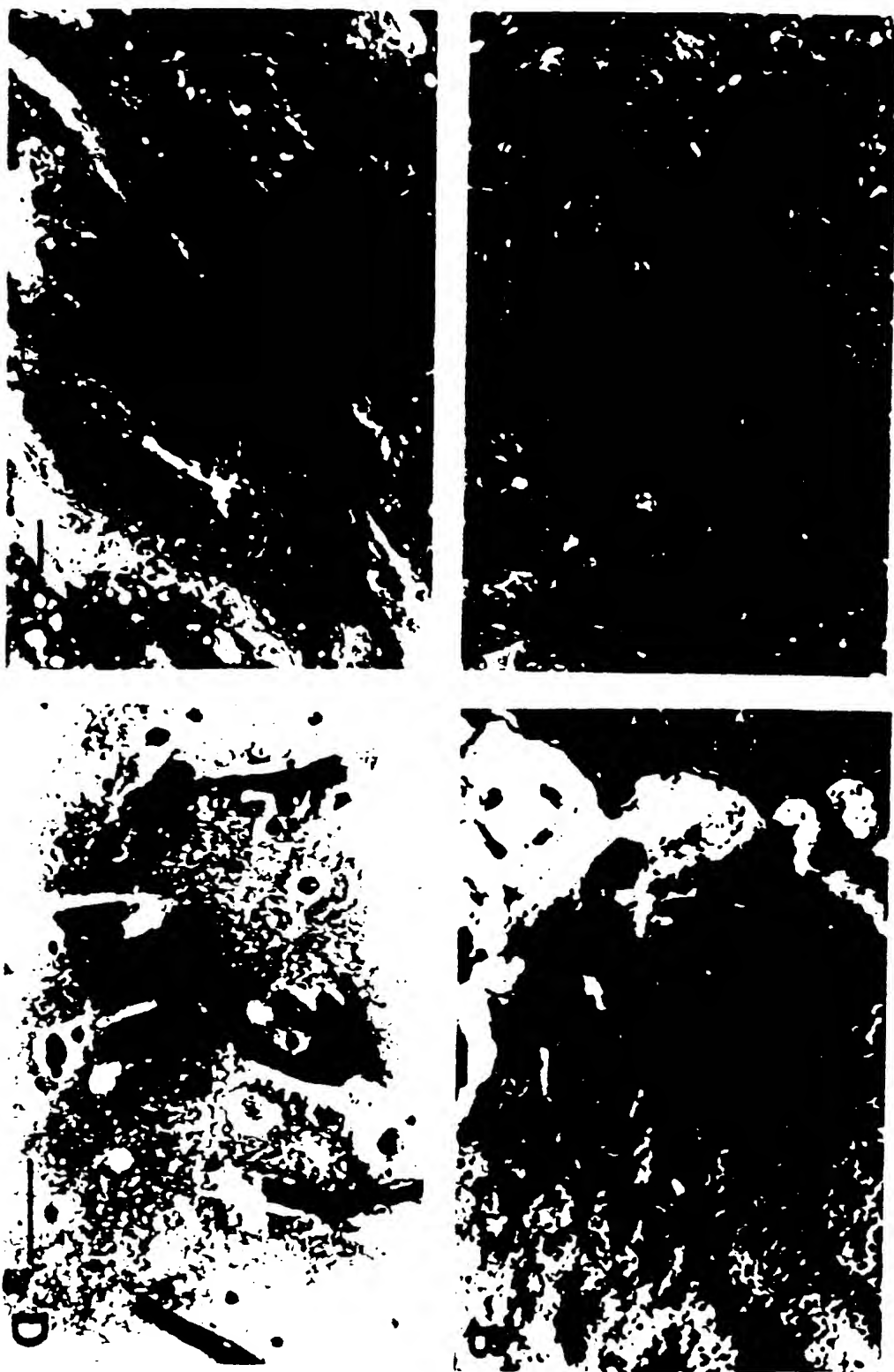


FIGURE 7

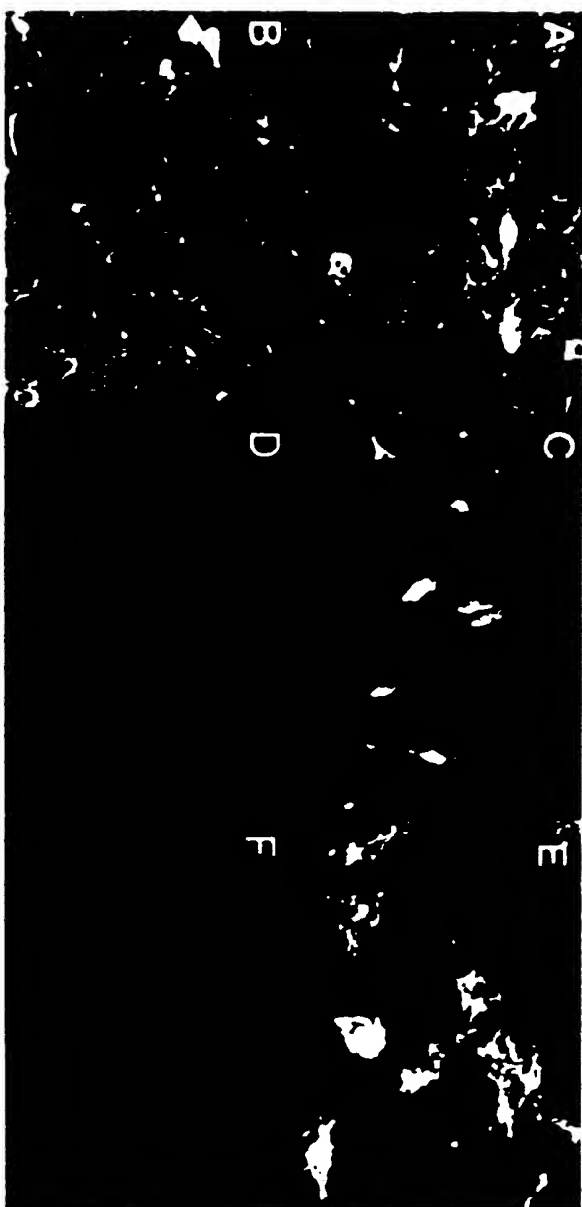


FIGURE 8

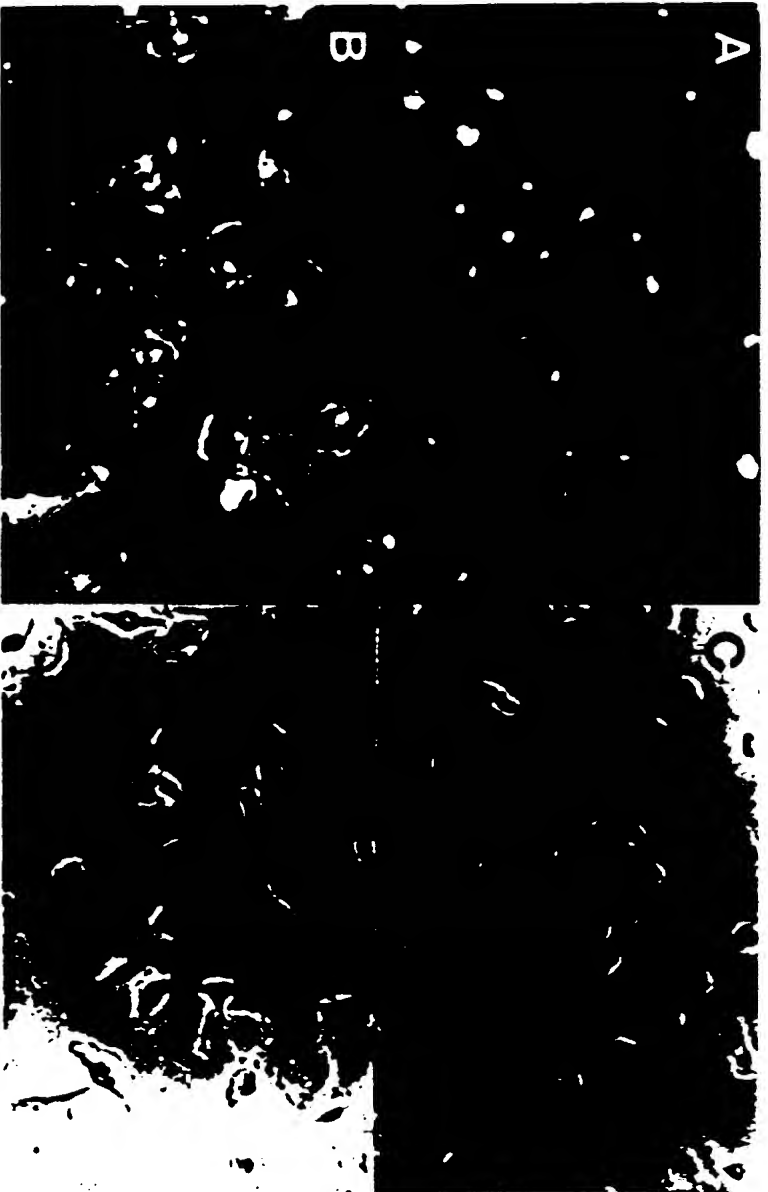




FIGURE 9

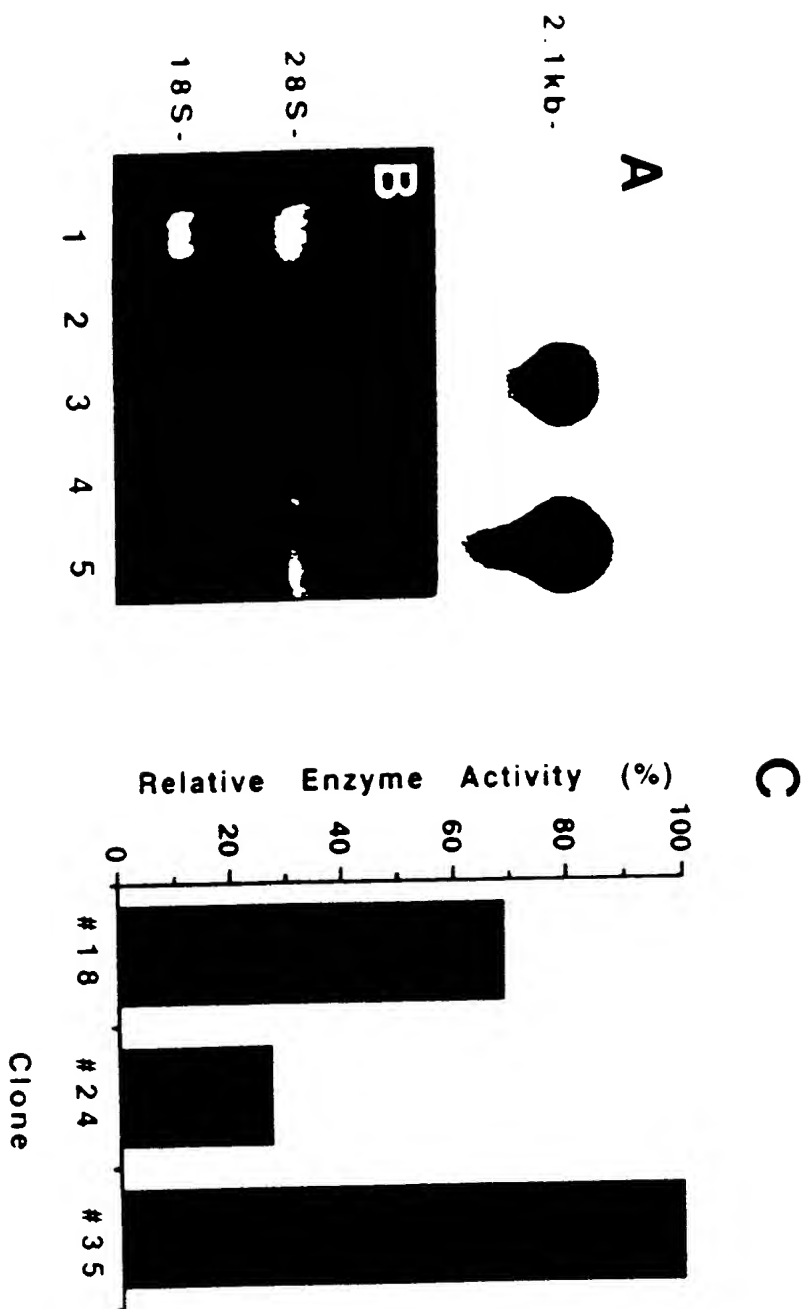


FIGURE 10

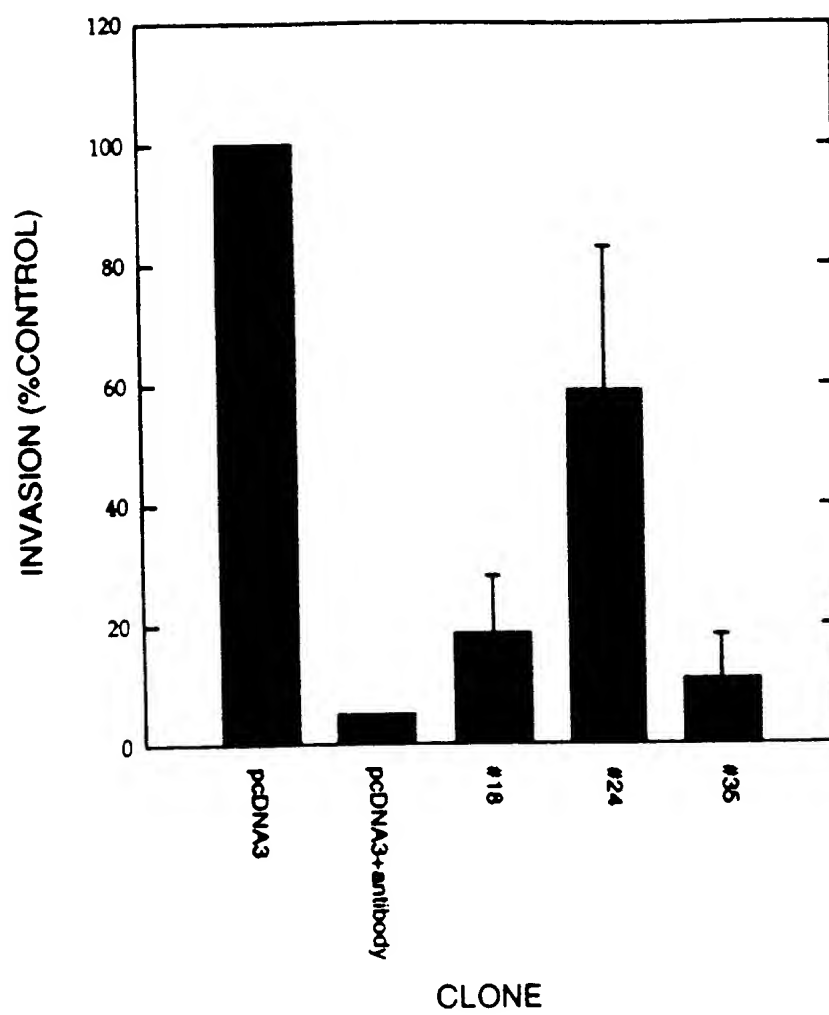
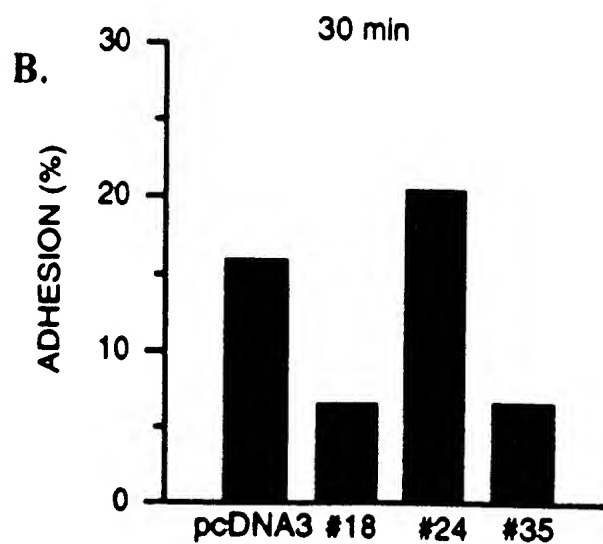
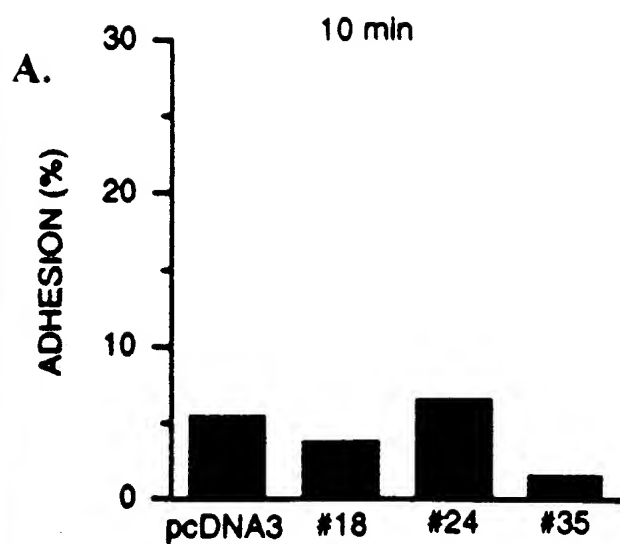


FIGURE 11

Human Collagen Type I



Fibronectin

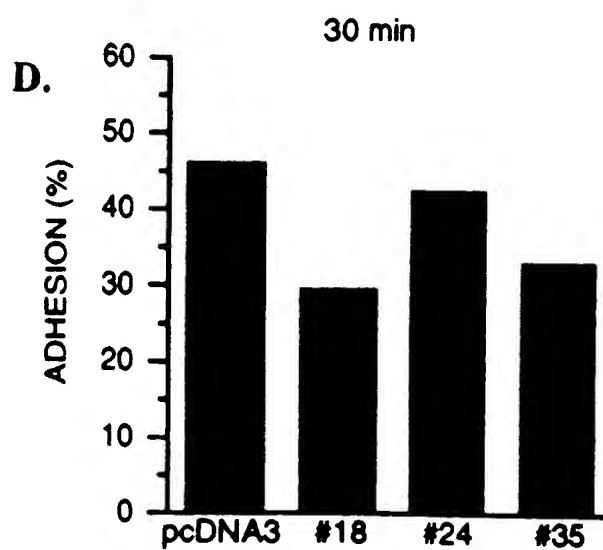
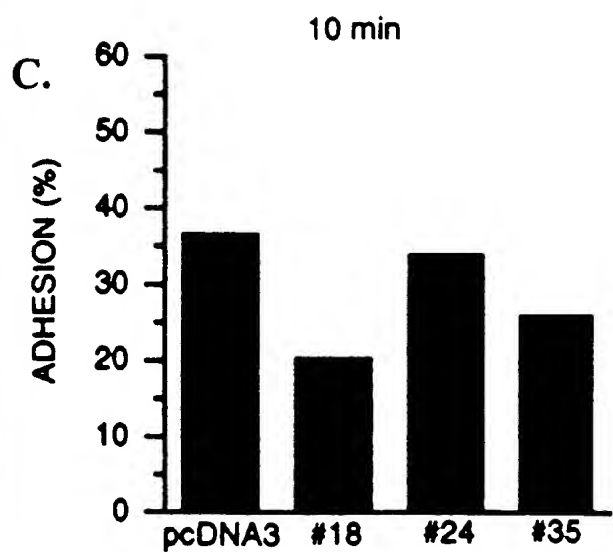


FIGURE 12

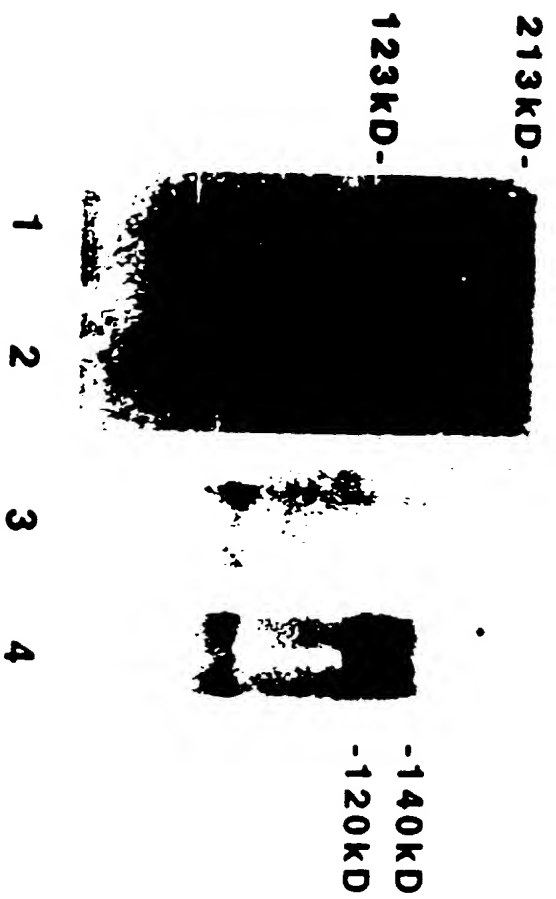


FIGURE 13

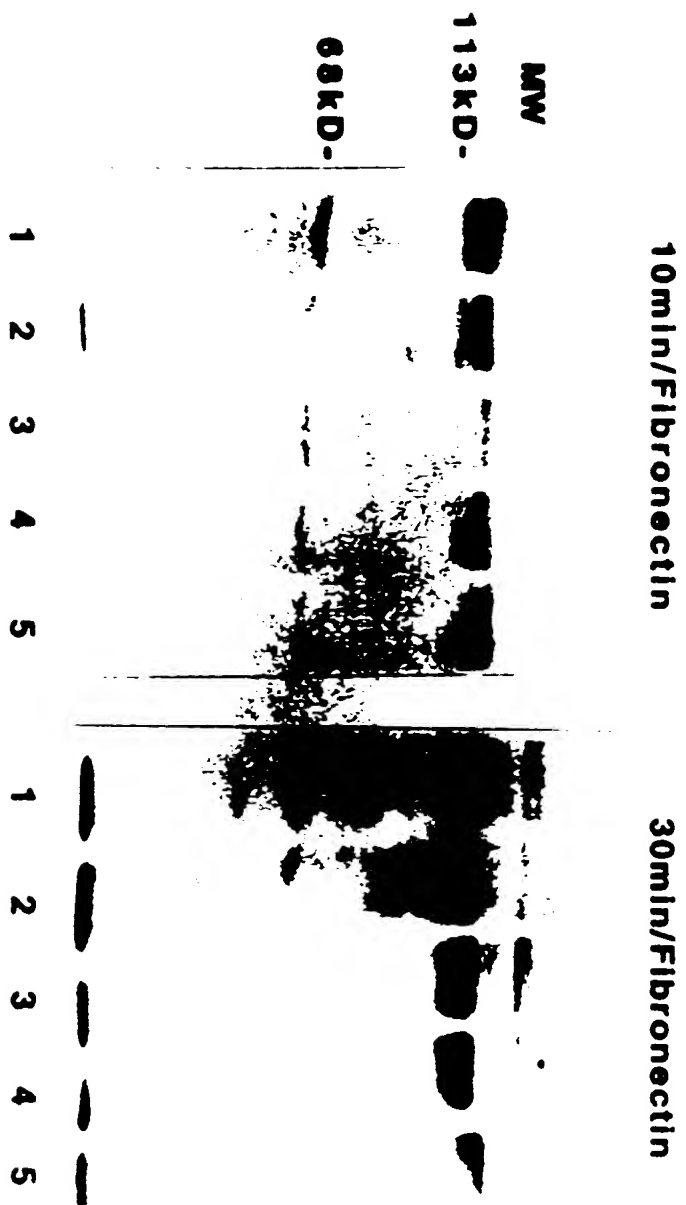


FIGURE 14

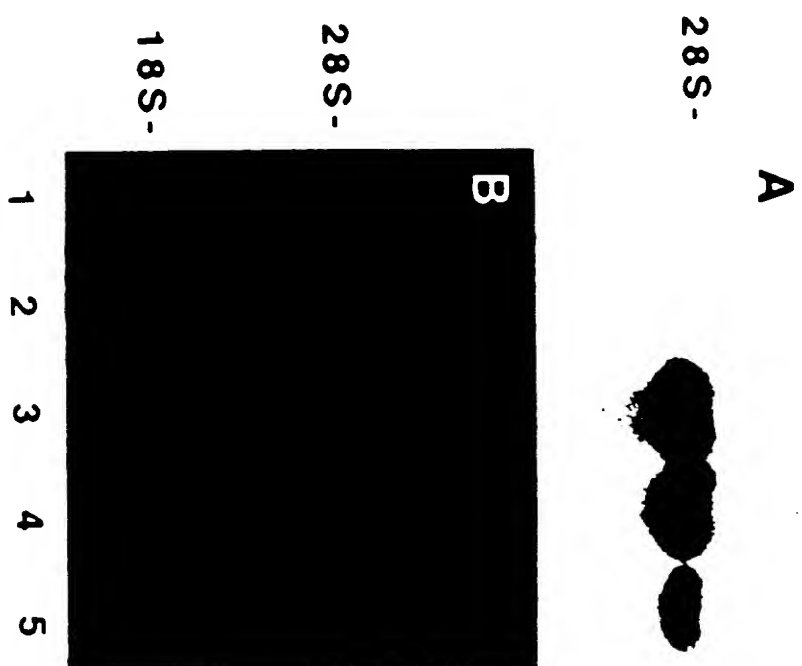


FIGURE 15

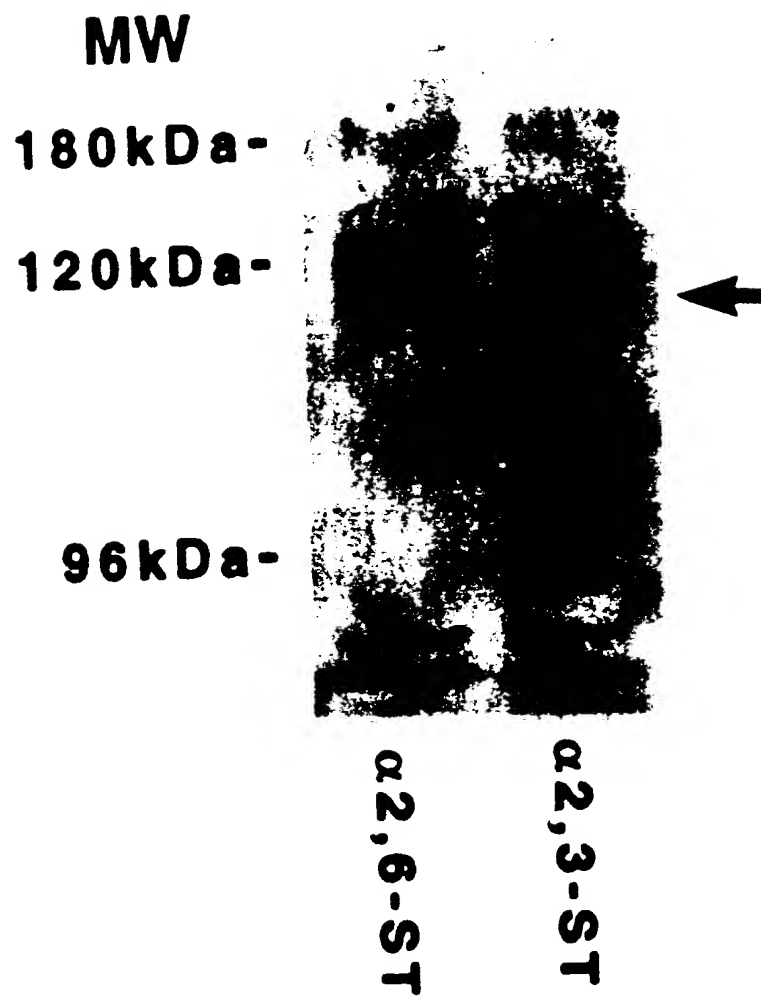


FIGURE 16





FIGURE 17

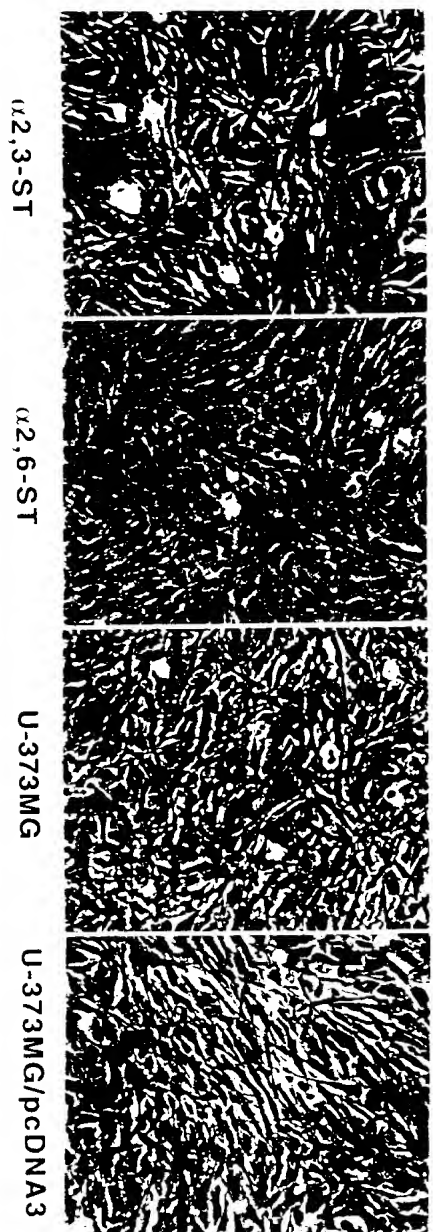


FIGURE 18

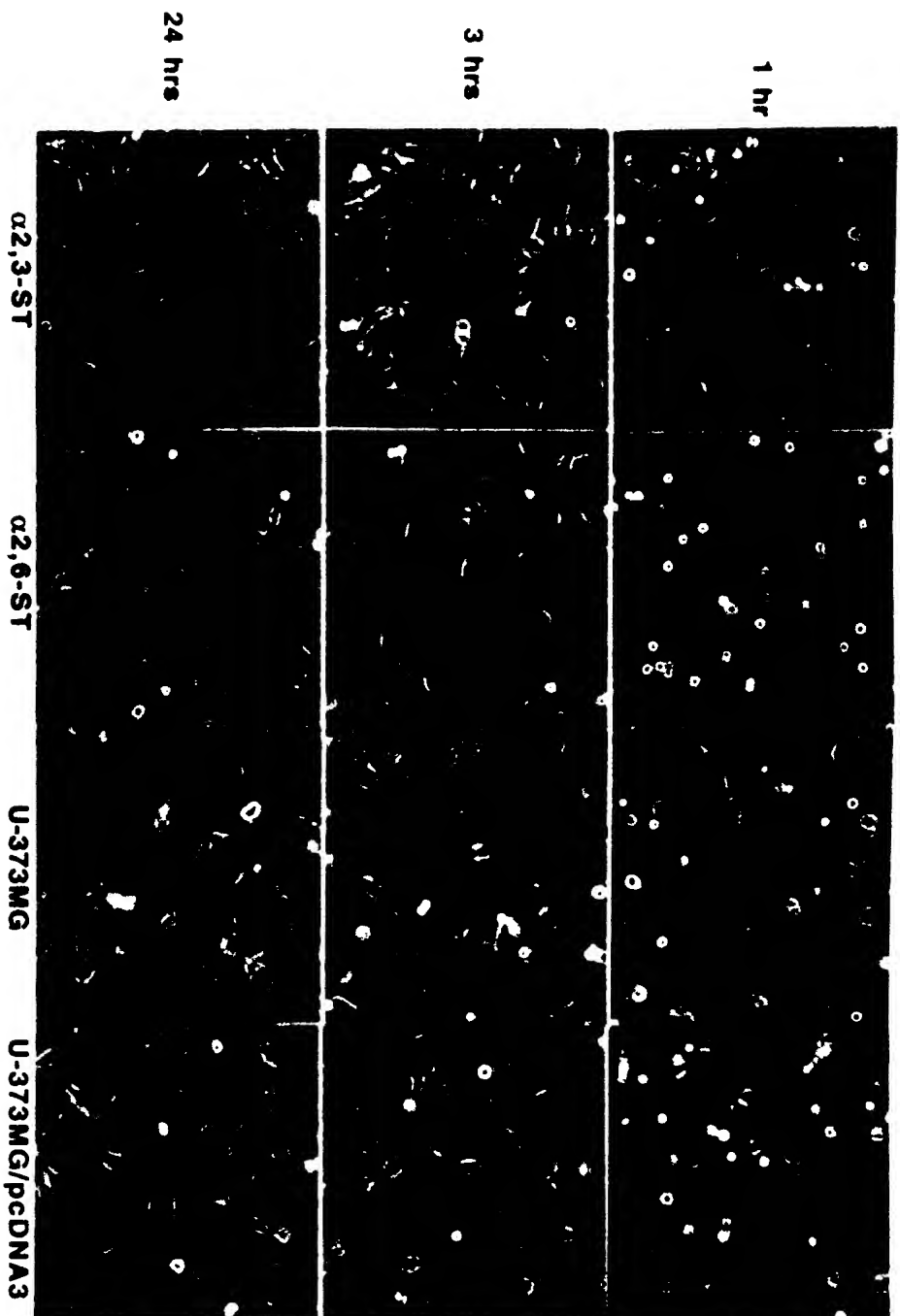


FIGURE 19



FIGURE 20

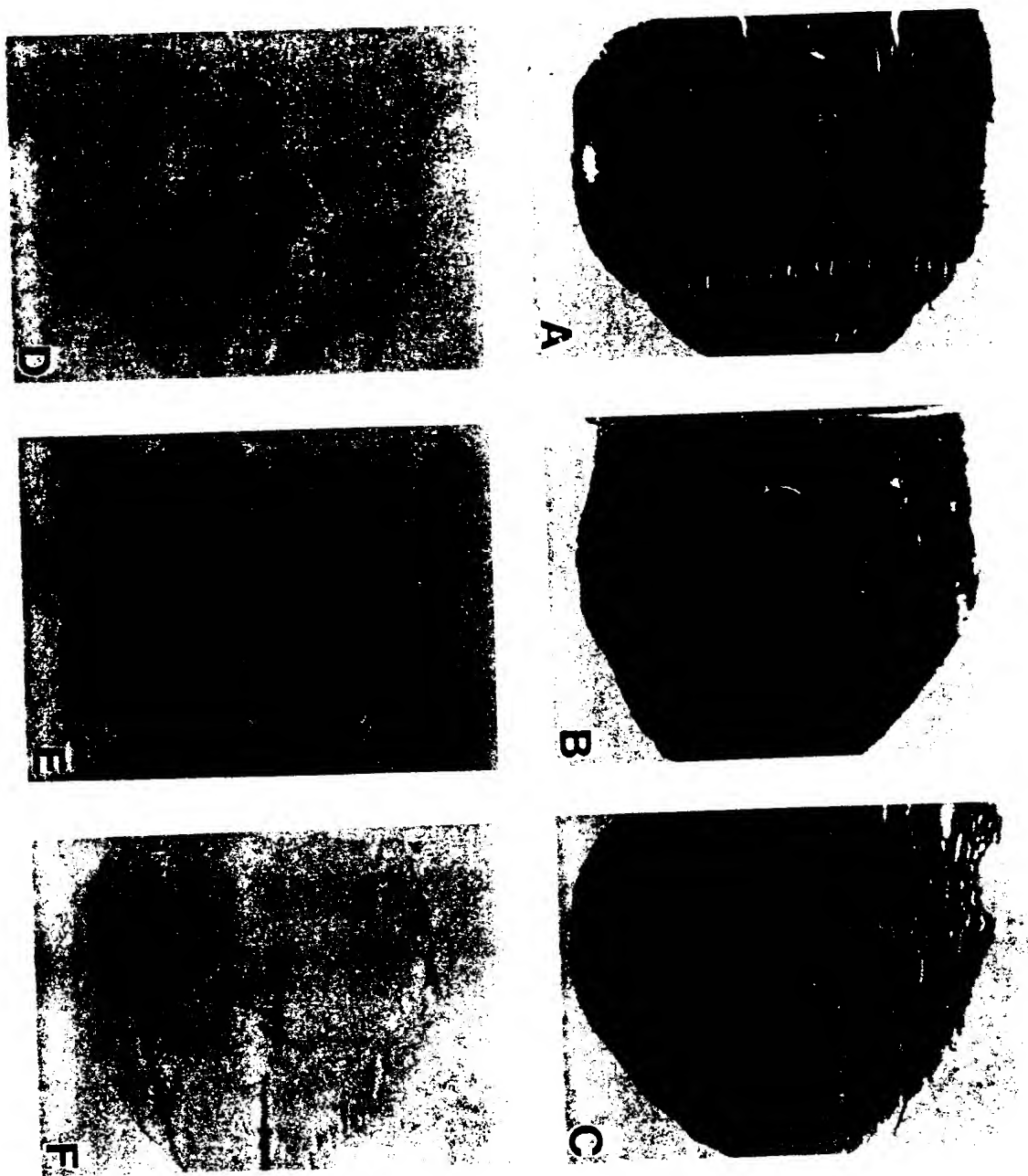


FIGURE 21

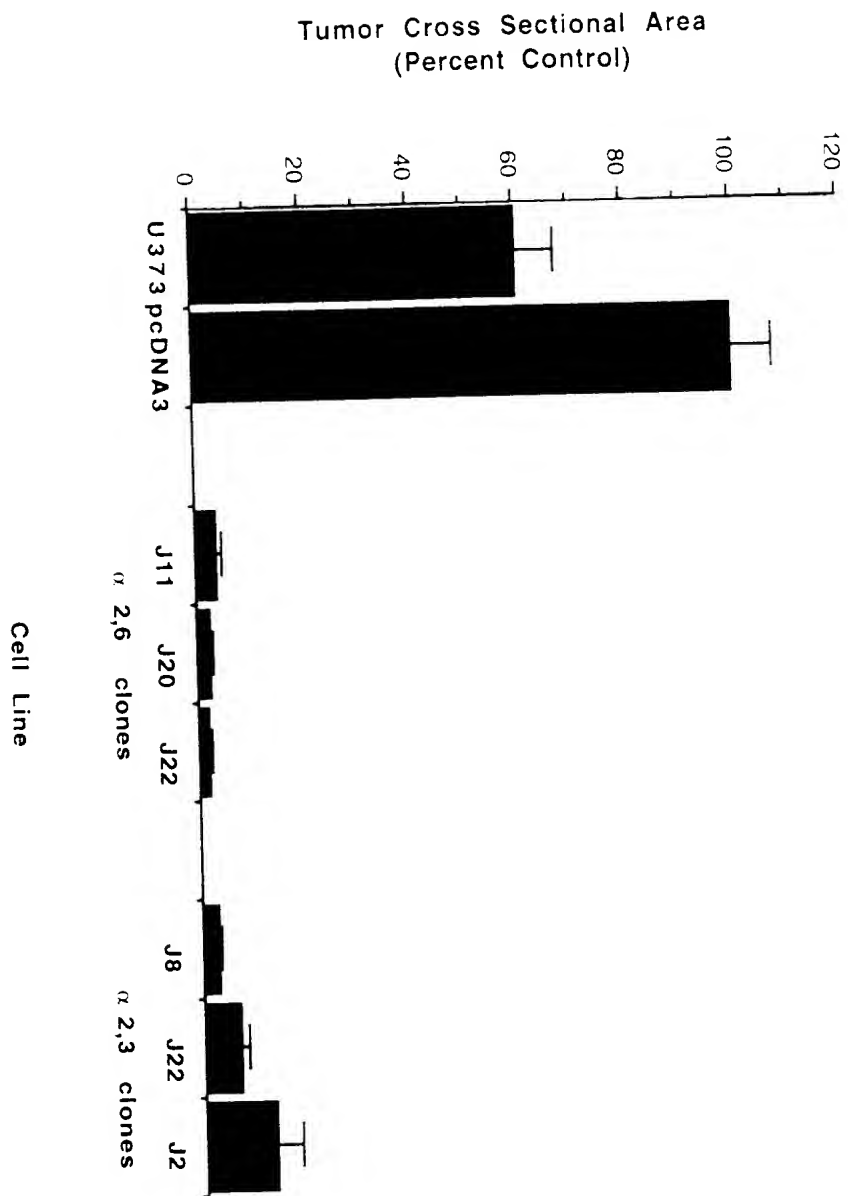


FIGURE 22

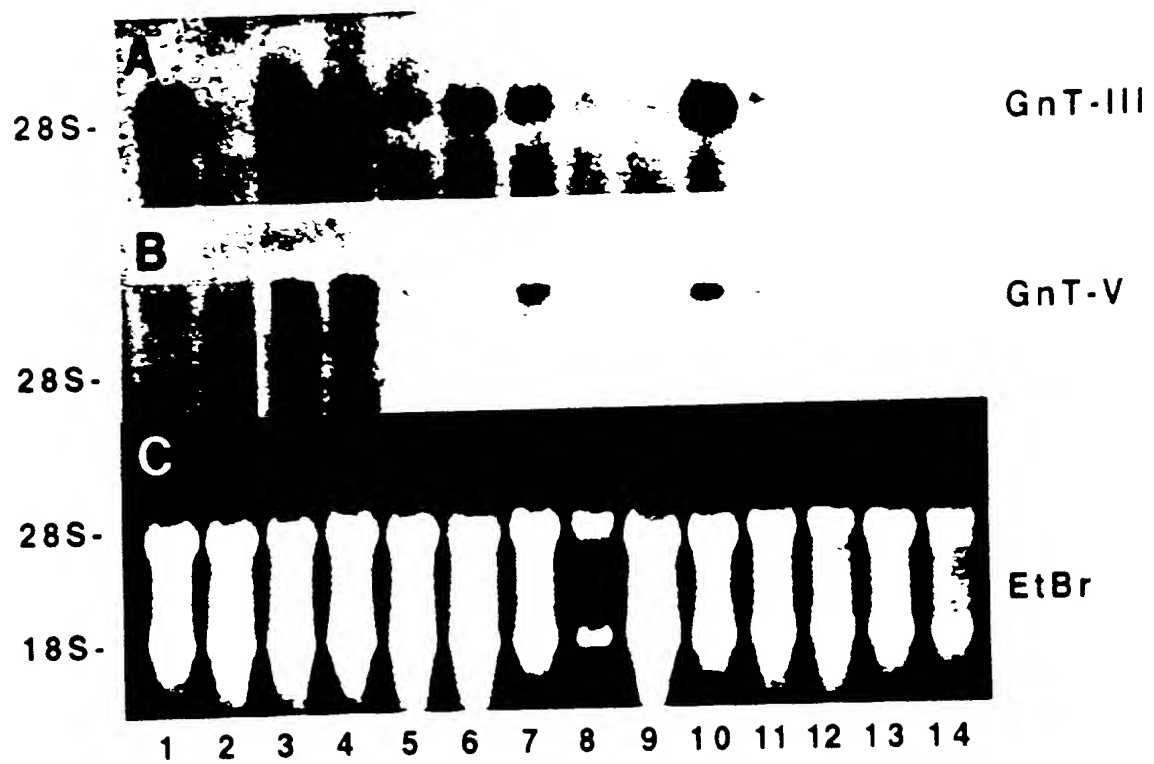


FIGURE 23

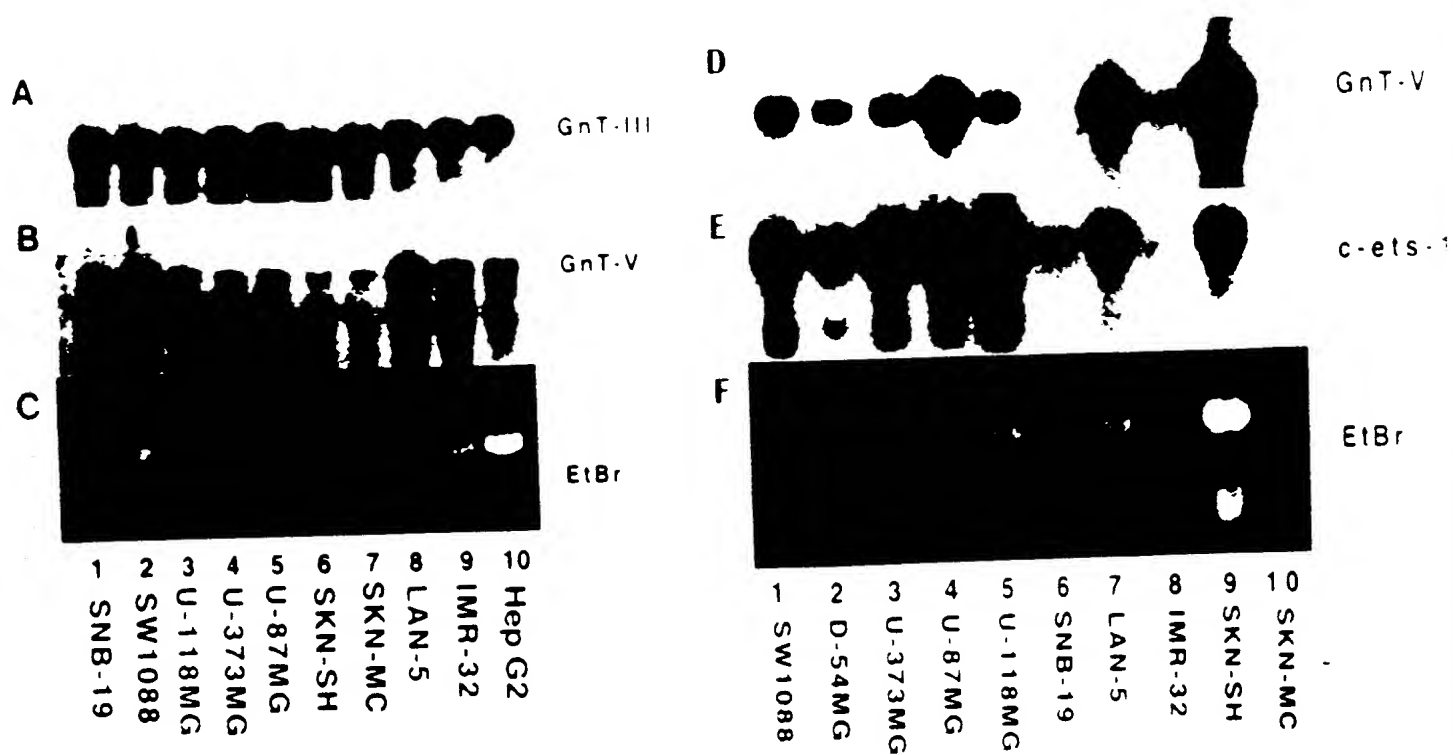


FIGURE 24





FIGURE 25

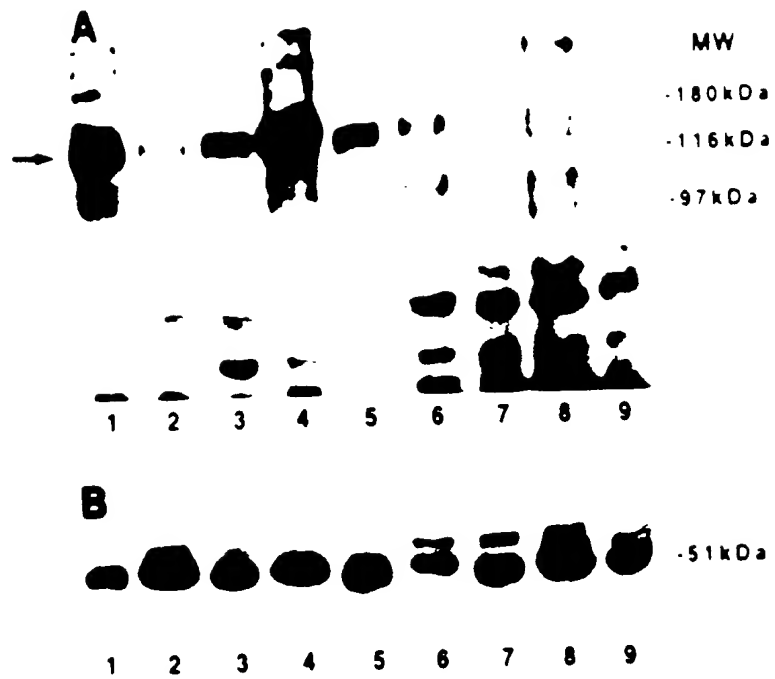


FIGURE 26

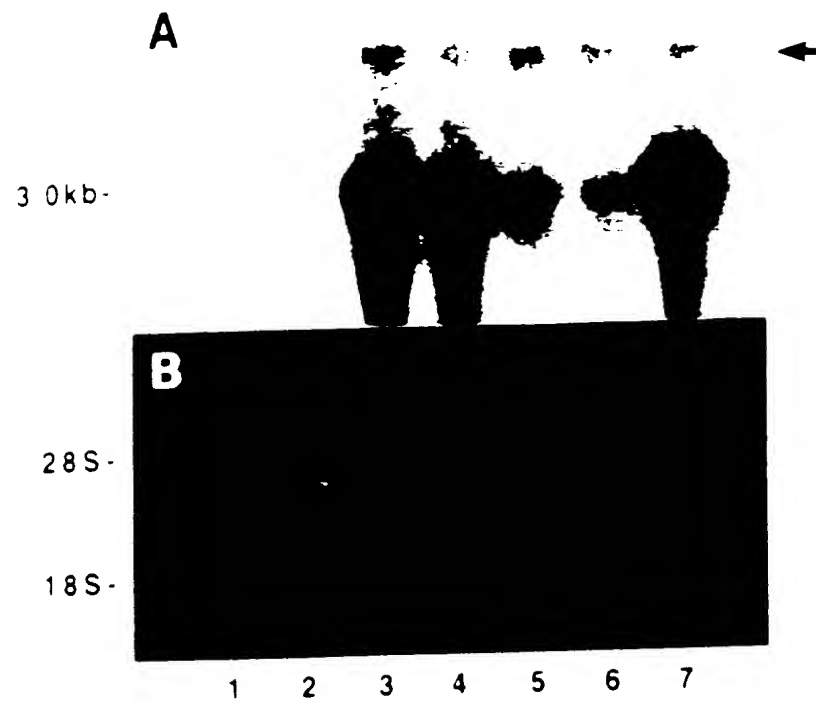


FIGURE 27

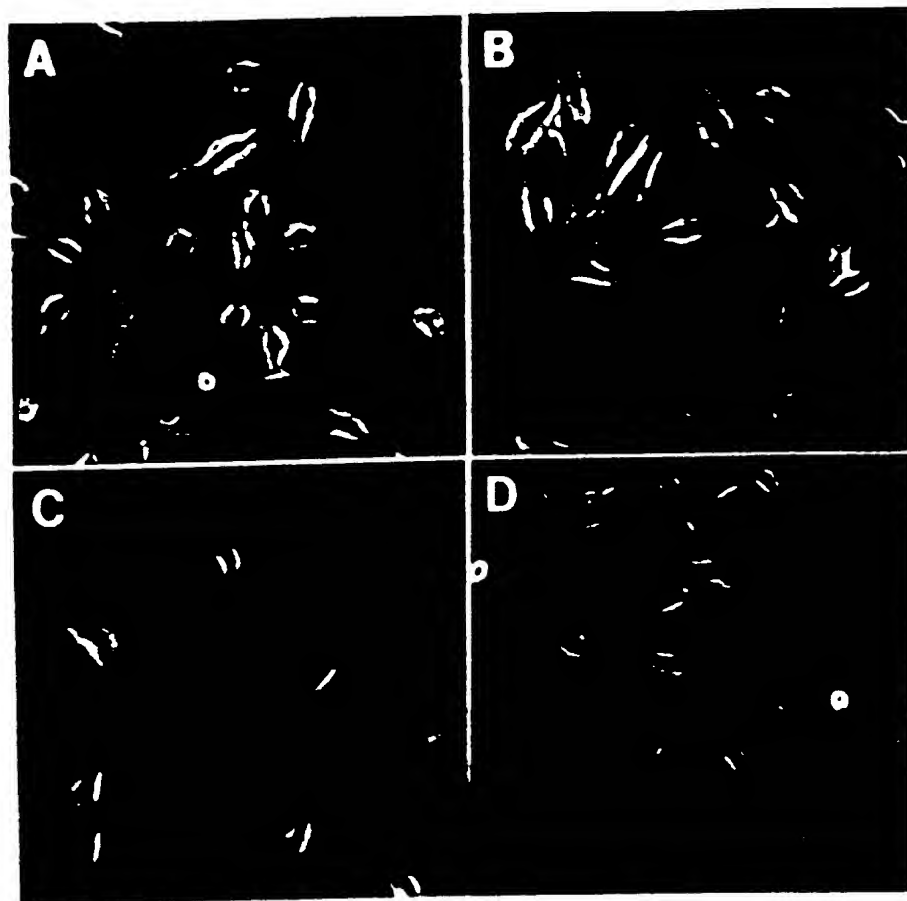


FIGURE 28

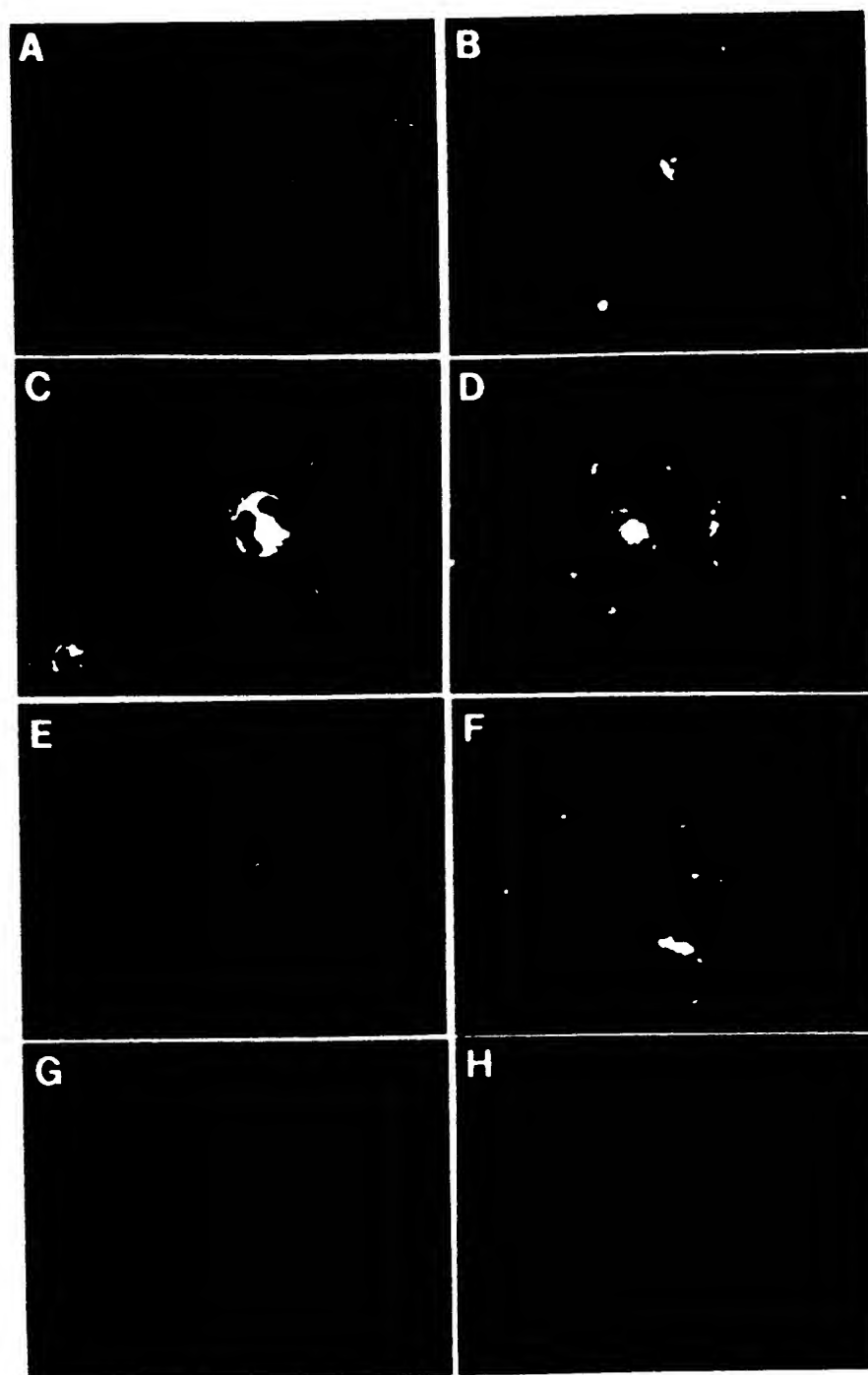
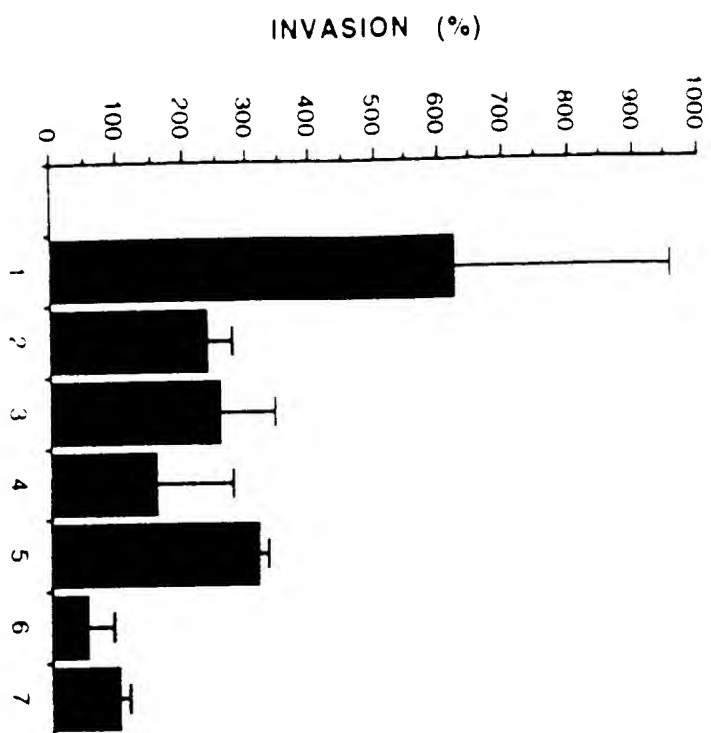
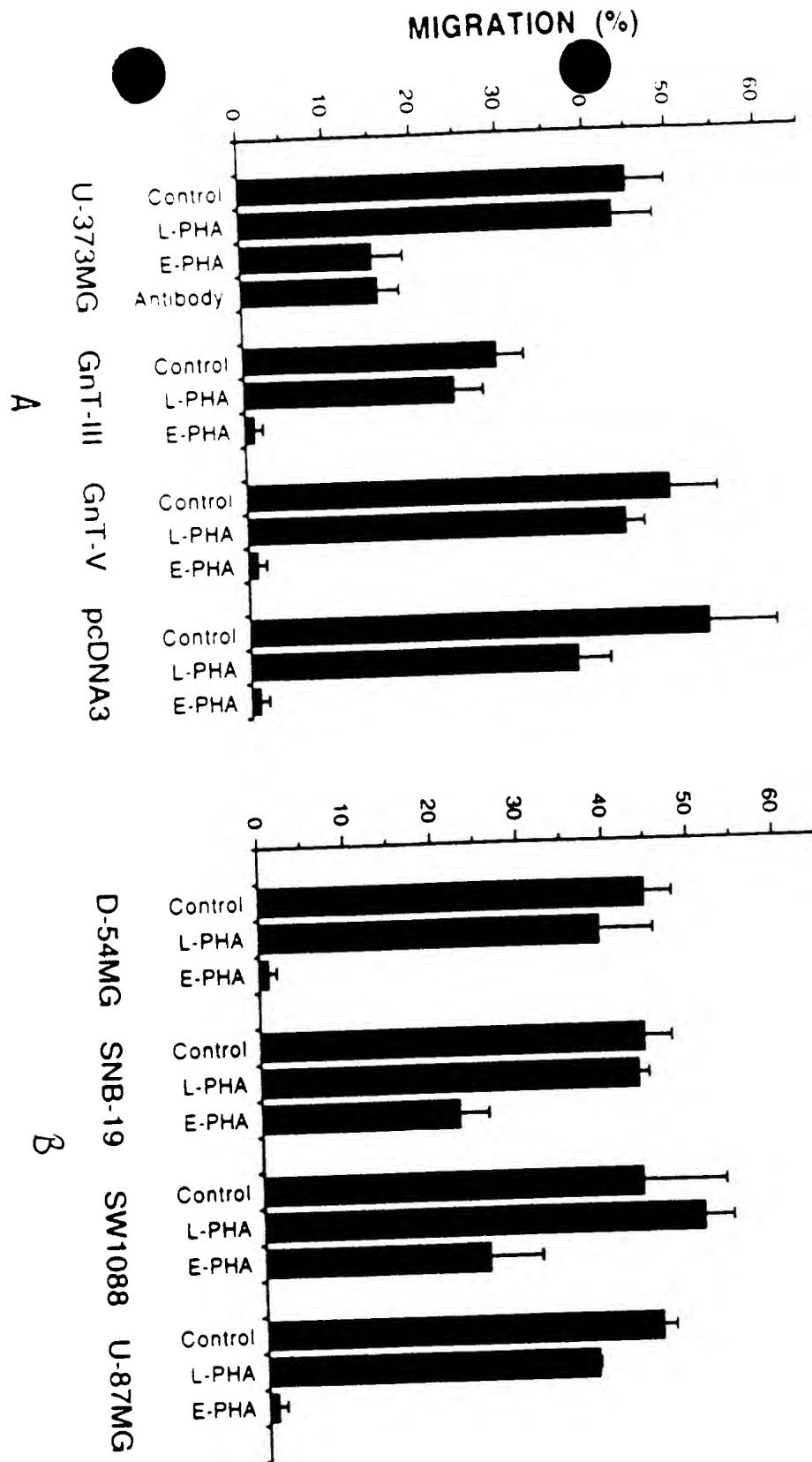


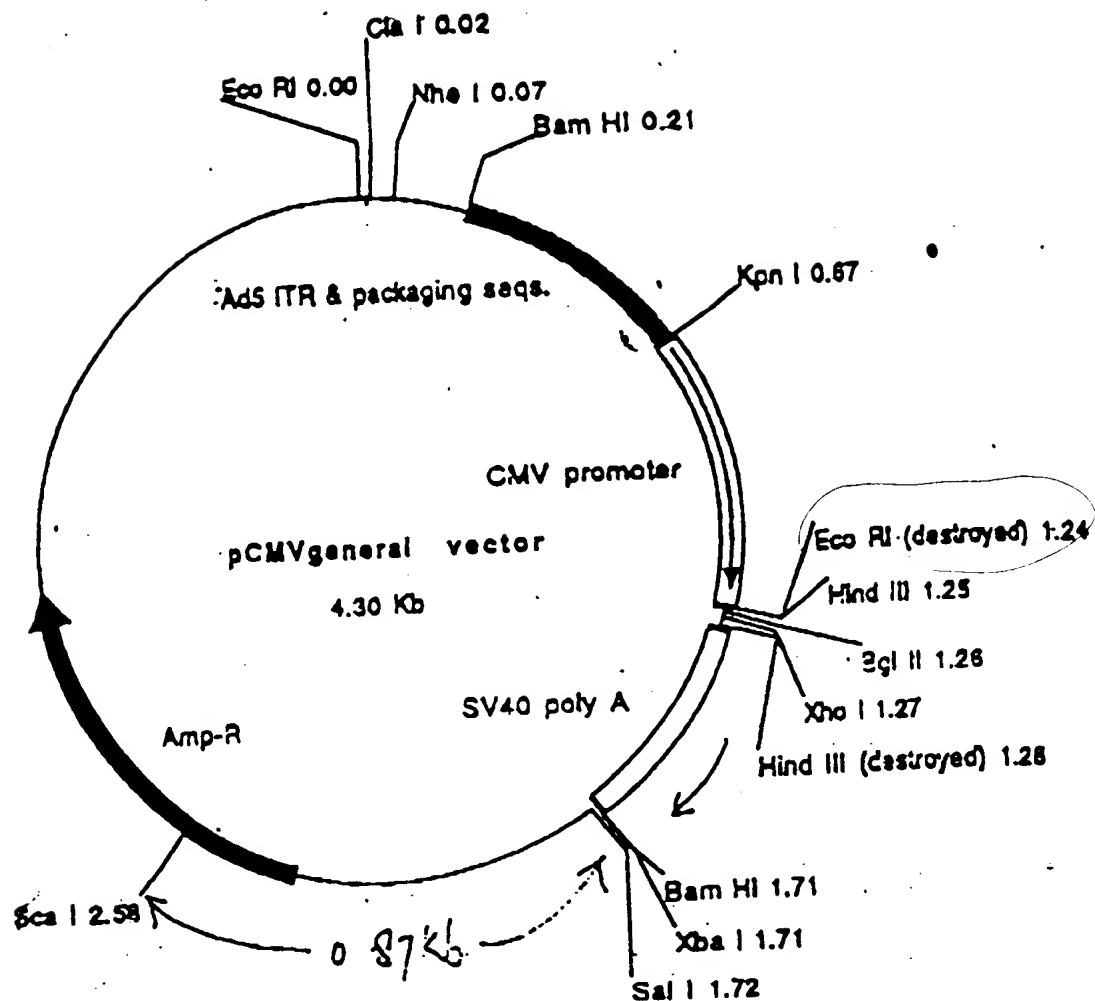
FIGURE 29





**FIGURE 30**

FIGURE 31A



Plasmid name: pCMVgeneral vector

Plasmid size: 4.30 kb

Constructed by: Swaminathan

Construction date: June 1993

Comments/References: Starting plasmid was pCMVE4 6/7. The E4 6/7 seqs. were removed by cutting with Hind III (1.97) and Eco RI (1.24) and replaced with an oligo carrying Hind III, Bgl II and Xho I. The original Hind III & Eco RI sites are destroyed in this construct.

FIGURE 31B

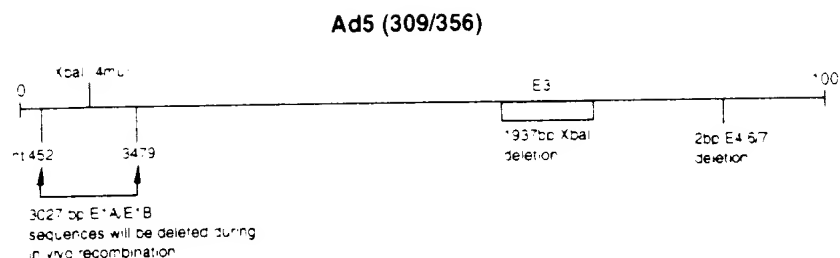
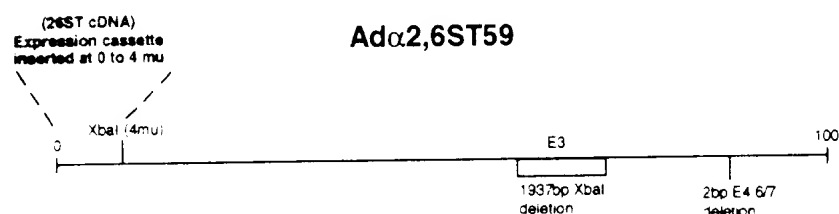


FIGURE 31C

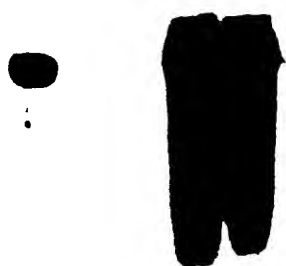


**Construction of adenoviral vector.** A recombinant adenoviral vector expressing  $\alpha$ 2,6ST was constructed using the parental virus Ad5 (309/356) shown in Panel A. Panel B indicates the insertion of the  $\alpha$ 2,6ST expression cassette into the E1a region of the parental genome as described in Materials and Methods. Elimination of the E1a region renders the new adenoviral construct replication incompetent

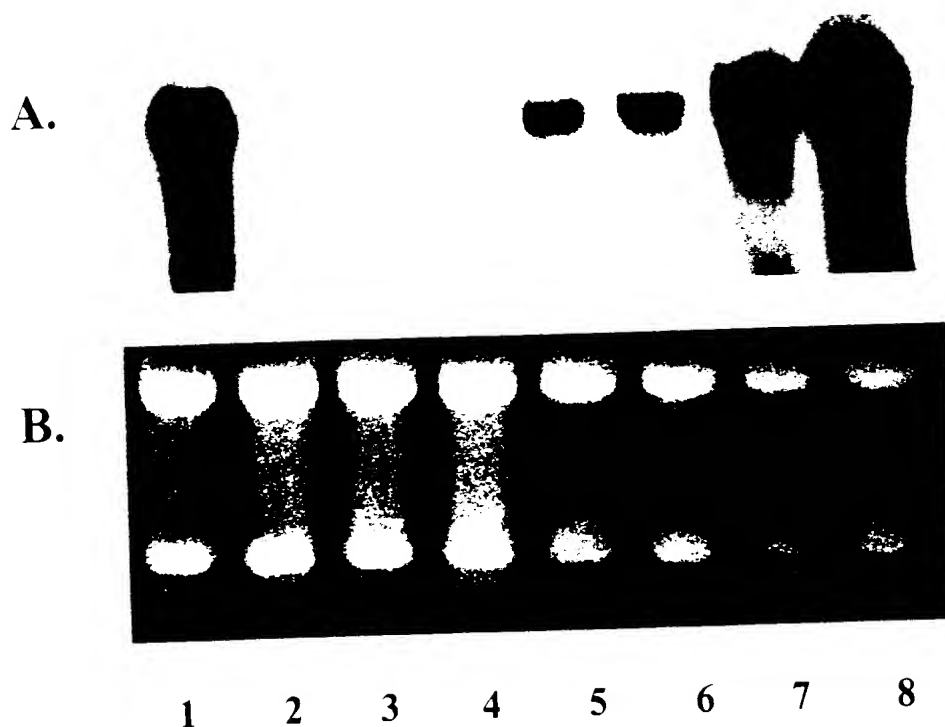


FIGURE 32

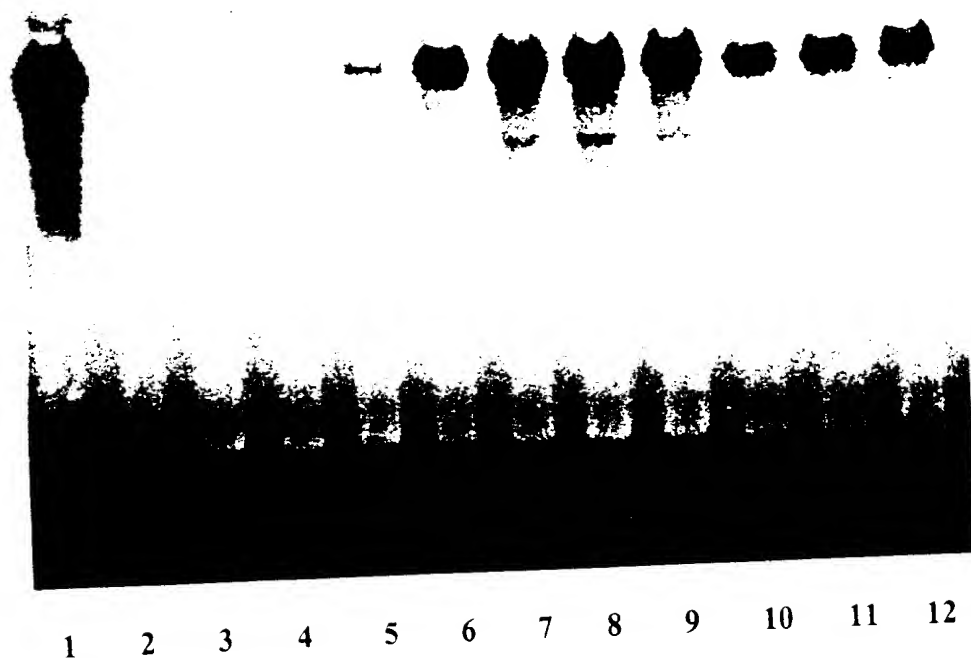
2.1 kb-



1 2 3 4 5 6 7



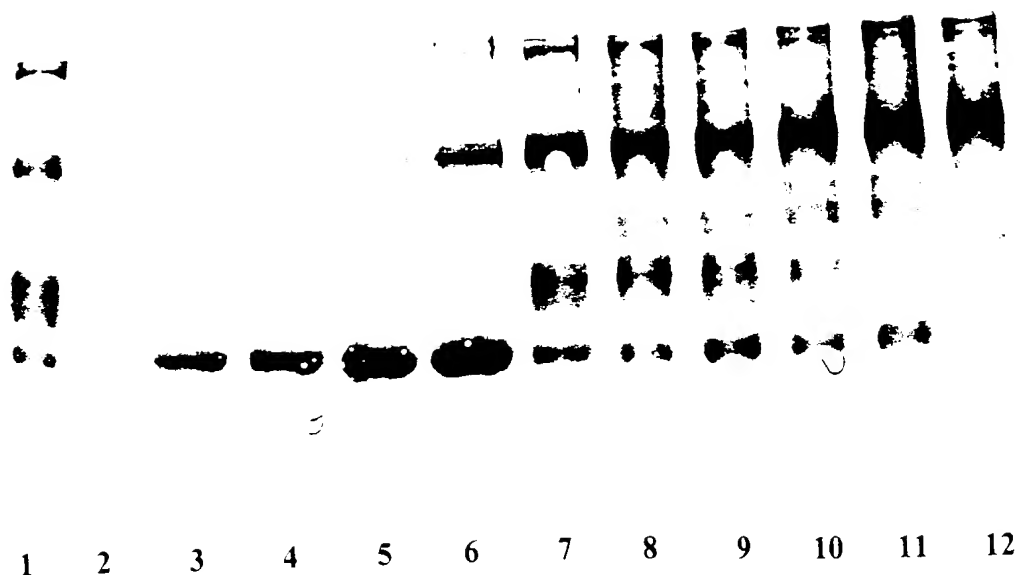
**Dose-dependent expression of  $\alpha 2,6$ -ST mRNA in U-373MG cells.**  
Lane 1: U-373MG cells 48 hours following infection with crude Ad $\alpha 2,6$ -ST virus; lane 2: U-373MG cells with no virus; lanes 3-8: U-373MG cells 48 hours following infection with, respectively, 0.02, 0.2, 2.0, 10.0, 20.0, and 200 plaque-forming units (pfu)/cell of plaque-purified Ad $\alpha 2,6$ -ST59.



**Time-dependent expression of  $\alpha$ -2,6-ST mRNA in U-373MG glioma cells.**

Lane 1: U-373MG cells stably transfected with  $\alpha$ 2,6-ST; lane 2: U-373MG cells with no virus; lane 3: U-373MG cells 3 hours after infection with 10 pfu plaque-purified Ad $\alpha$ 2,6-ST59 / cell; lanes 4 - 13: 6 hours, 12 hours, 1 day, 2 days, 3 days, 4 days, 6 days, 7 days and 8 days after infection.

FIGURE 35



**Time-dependent expression of sialoglycoconjugates in U-373MG glioma cells.**

5 $\mu$ g total protein per lane was run on a 0.8% SDS-PAGE gel, and stained with SNA lectin. Lane 1: U-373MG cells stably transfected with  $\alpha$ 2,6-ST gene; lane 2: U-373MG cells with no virus; lane 3: U-373MG cells 3 hours after infection with 10 pfu plaque-purified Ad $\alpha$ 2,6-ST59 /cell; lanes 4 - 12: 6 hours, 12 hours, 1 day, 2 days, 3 days, 4 days, 6 days, 7 days and 8 days after infection.

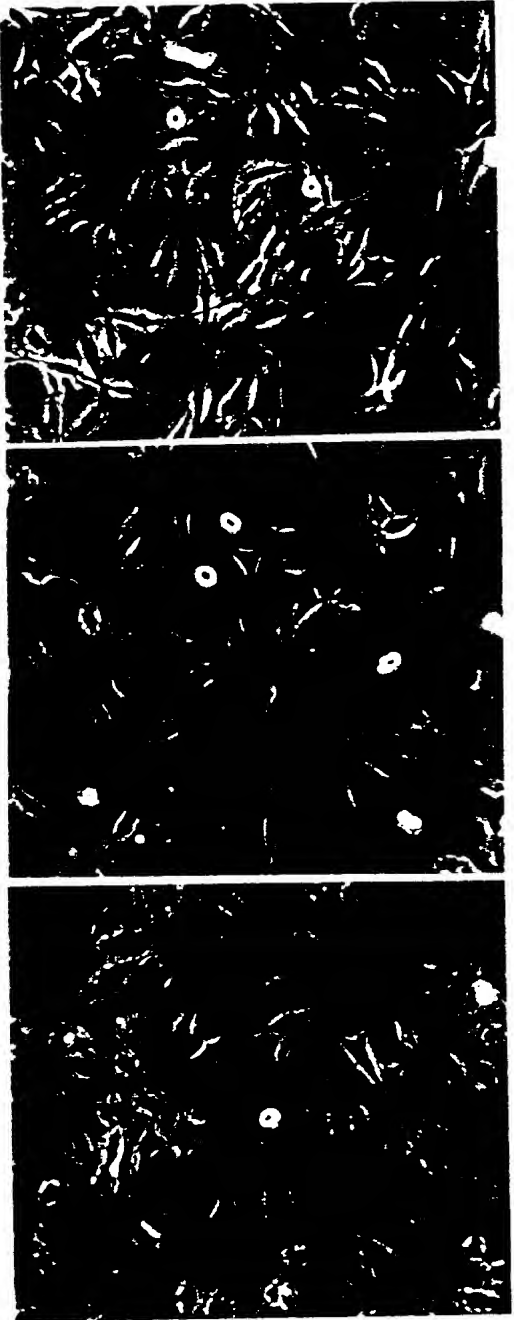
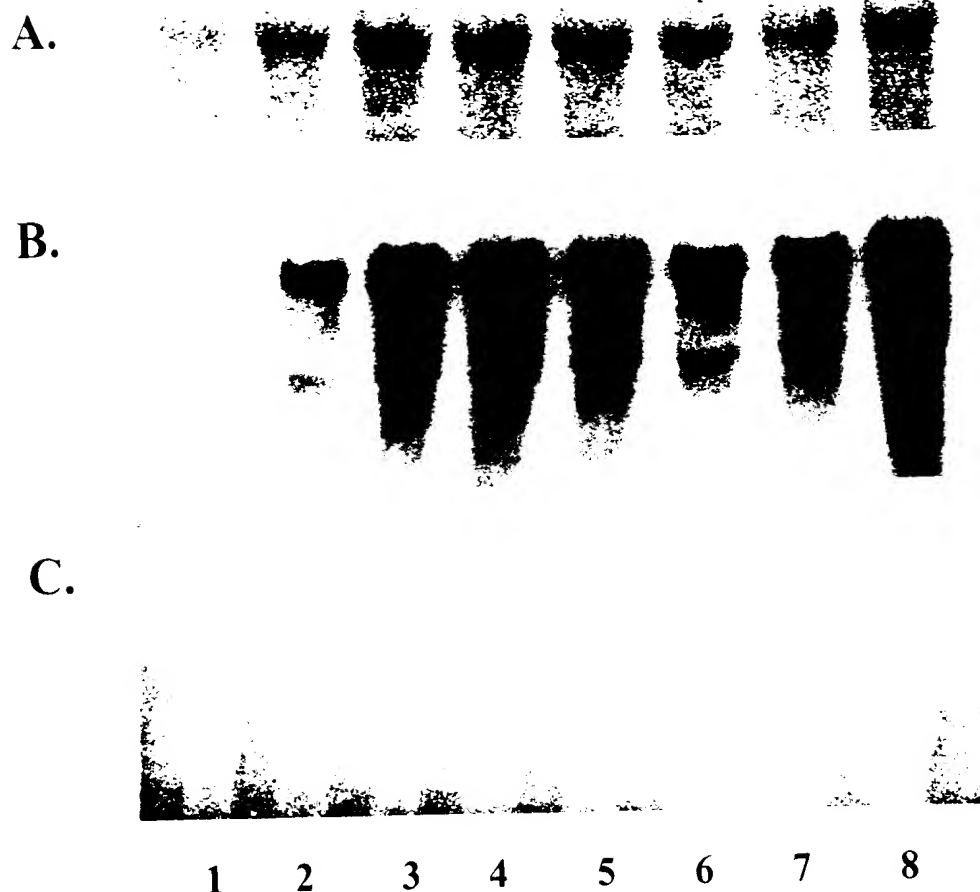
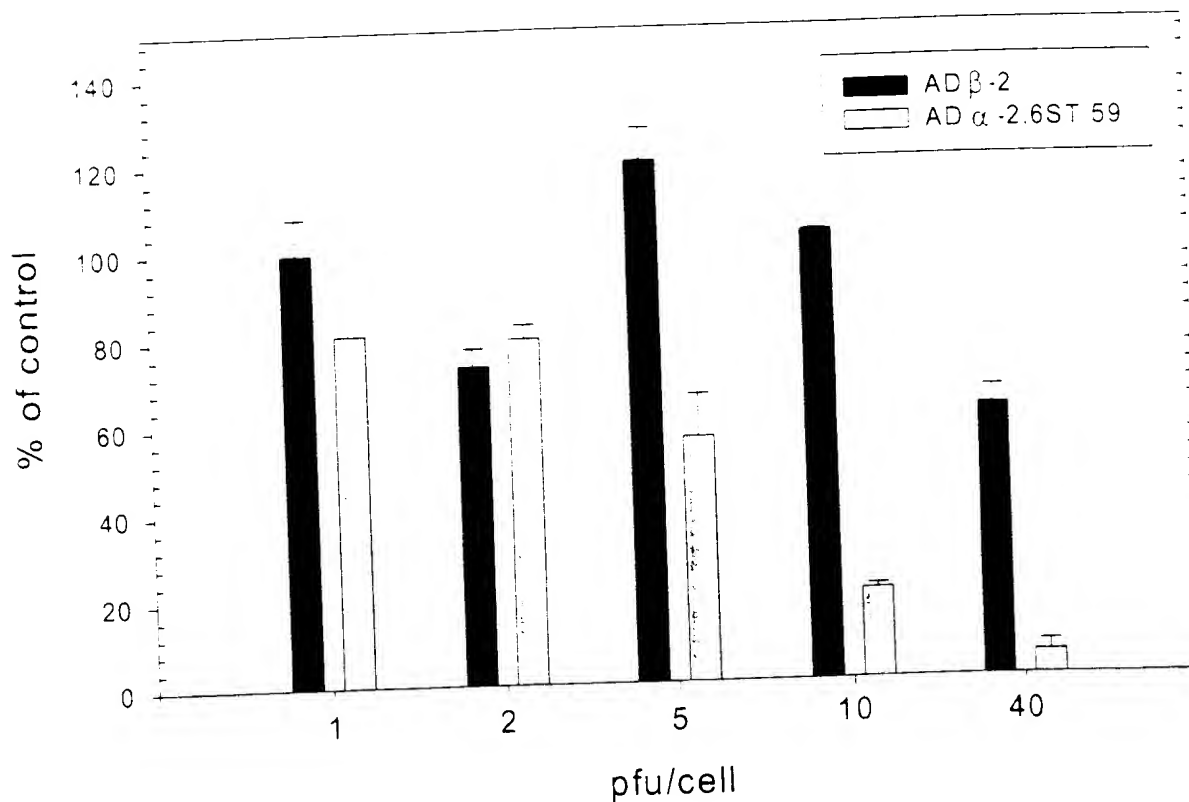


FIGURE 36



**Time-dependent expression of focal adhesion kinase (p125<sup>fak</sup>) mRNA in Adα2,6ST59 infected U-373 MGcells.**

Northern blot probed with p125<sup>fak</sup> cDNA (Panel A). Panel B shows the same blot probed with α2,6-ST cDNA. Ethidium bromide staining (Panel C). Lane 1: U-373MG cells with no virus; lane 2: 1 day after infection with 10 pfu plaque-purified Adα2,6ST59 /cell; lanes 3 - 8: 2days, 3 days, 4 days, 6 days, 7 days and 8 days after infection with 10 pfu plaque-purified Adα2,6ST59 / cell.



### Inhibition of U-373MG glioma cell invasion by Ad $\alpha$ 2,6-ST59.

U-373MG glioma cells were infected with plaque-purified Ad $\alpha$ 2,6ST59 (grey bars) or a control virus, AdCMV $\beta$ 2 (black bars). Cells were infected at 1, 2, 5, 10 and 40 plaque-forming units (pfu) per cell and invasion assay performed after a 4 day incubation period. Data is shown as percent invasion of non-virus-infected control U-373MG cells.